

CSCAPE 2005: NOAA Ship McArthur II Weekly Science Report – Leg 1a

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SCIENCE SUMMARY: 03 June - 08 June 2005

Welcome to West Coast CSCAPE! The goals of our cruise are to collect data that will allow us to estimate the abundance of marine mammals found off the coasts of California, Oregon and Washington, and to better understand the marine ecosystem they live in. This first leg covers waters of the Olympic Coast National Marine Sanctuary, off Washington. Subsequent legs will focus on waters of the central California marine sanctuaries (Cordell Bank, Gulf of the Farallones, and Monterey Bay), and then survey the entire marine region within 300 nautical miles of the coast (follow the link on the CSCAPE home page to see our planned transect lines). So we've got a long project ahead of us, but we're off to a great start!

Our first week out has been busy and exciting, with many humpback whales, Pacific white-sided dolphins, Dall's porpoise, harbor porpoise, fur seals and Steller sea lions. We've also seen northern right whale dolphins, killer whales, and gray whales. The weather has been amazingly good, and we have almost completed our entire Olympic Coast National Marine Sanctuary (OCNMS) survey grid as of Wed (6/8). We have one more transect line to go, and we expect to finish it today (6/9). Our days have been long, beginning just after sunrise (about 5:30am), continuing survey effort until just before sunset (about 9:00pm), and checking, editing, and backing up data until nearly midnight most days. Washington State is a real treat.

During the past 5 days, we have made over 160 sightings of cetaceans, and we've seen dozens of fur seals, many Steller sea lions, three sea otters, and two leatherback turtles. The waters have ranged from silty green just north of the Columbia River, to crystal clear blue offshore. By-the-wind sailors (*Velella velella*) have been our frequent companions at sea, as have the seabirds (see *Bird News*, below). To put our results into perspective, the two most recent west coast wide surveys (ORCAWALE 1996 and 2001) had a total of 361 and 1009 cetacean sightings, respectively, spanning the entire four project months. So the waters of the Olympic Coast National Marine Sanctuary and adjacent offshore waters are indeed a special place. This collaborative effort with the Olympic Coast National Marine Sanctuary is continuing a series of annual marine mammal and seabird surveys, which they have conducted since 1995. Preliminary sighting results show more dolphins this year than during previous years.

During the remaining days of this leg, weather permitting, we plan to conduct additional photo-identification and biopsy efforts wherever we can find species of interest, particularly humpback whales and killer whales. Wish us luck, and come check back next week to see how the rest of our trip goes. - Karin & Ed

Sightings and Effort Summary for Marine Mammals

Date	Start/Stop	Position Time	Total Distance	Avg. Beaufort
060405	1350	N46:11.67 W124:15.89	63.7nmi	3.0
	2022	N47:13.12 W124:29.10		
060505	0558	N47:17.19 W124:19.66	77.1nmi	2.6
	1910	N47:27.22 W124:27.75		
060605	0612	N47:37.16 W124:29.37	91.5nmi	2.9
	2051	N47:57.01 W124:44.87		
060705	0602	N47:56.95 W124:45.37	73.0nmi	3.0
	2047	N48:06.91 W125:03.99		
060805	0530	N48:07.03 W125:03.25	69.0nmi	2.6
	2011	N48:17.00 W126:08.91		

Code	Species	Tot#
17	short-beaked common dolphin	1
22	Pacific white-sided dolphin	36
27	northern right whale dolphin	10
37	killer whale	1
40	harbor porpoise	17
44	Dall's porpoise	16
69	gray whale	2
76	humpback whale	54
77	unidentified delphinid	16
78	unidentified small whale	1
79	unidentified large whale	13
TOTAL		167

Note: Pinnipeds are not included.

Biopsies (Juan Carlos Salinas)

Species	Weekly	Cumulative
Humpback whale	6	6
Pacific white-sided dolphin	8	8
Northern right whale dolphin	2	2
Grand Total	16	16

Photo-Project (Annie Douglas)

At the call of “dolphins on the bow” digital cameras whirr into action, there are bleeps of auto focusing and clashes of 8 frames a second. Since leaving Astoria we have had 28 encounters where we have encountered marine mammals and documented them photographically. To date we have 16 humpback fluke identifications, and we have photographed several dolphin schools. The dolphin photographs will be used to look at morphological differences within species up and down the west coast of North America. The humpback photos will be submitted to Cascadia

Research to be included as part of the SPLASH project, a multi year, North Pacific wide comparison of humpback whale flukes.

Species	Weekly	Cumulative
Humpback whale		
Catalog-quality flukes	16	16
Northern right whale dolphins*	5	5
Pacific white-sided dolphins*	4	4

*number of groups photographed

Bird News (Barbara Blackie)

With great viewing conditions, the bird observation team members have been enjoying our week on the flying bridge, although overall numbers seem lower than previous OCNMS surveys off the McArthur II. We have been treated to higher numbers of South Polar Skuas than usual - about 33 individuals seen so far! Apparently, seabird tours out of Westport have reported seeing more skuas earlier in the season over the past several years and our experience would jive with that. Other treats have included almost daily sightings of small groups of Ancient Murrelets, one Marbled Murrelet sighting, one Leach's Petrel, two Manx Shearwaters and one Flesh-footed Shearwater. Our usual stalwart high number species continue to be Sooty Shearwaters and Common Murres, and, oh yes, the ubiquitous ship-following Glaucous-winged-Western Gull hybrid. The gulls have been particularly pesky this year, perhaps a function of more whale sightings, which cause us to stop more often and allow birds to pile up. So I guess that's a good thing?! We have had conspicuously lower numbers of Northern Fulmars and Cassin's Auklets. Fulmars were down last year as well, but Cassin's is a surprise, especially with quite a bit of Beaufort 2 sighting conditions. Quite a few Tufted Puffins were seen earlier in the cruise; a real crowd pleaser!

Oceanographic Operations (Mindy Kelley, Liz Zele, and Lacey O'Neal)

Date	CTDs	Bongo tows	XBTs	Comments
06/02	0	0	0	In port - Astoria
06/03	0	0	0	In port - Astoria
06/04	0	0	0	Depart Astoria, transit to study area
06/05	1	1	3	
06/06	1	1	3	
06/07	1	1	3	
06/08	2	1	3	